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PREPARED BY	
NEW JERSEY DEPARTMENT OF TRANSPORTATION	

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D R A F T

USDOT SECTION 504

COMPLIANCE TRANSITION PLAN

FOR THE

ATLANTIC CITY URBAN AREA

TRANSPORTATION STUDY

JUNE 17, 1980

PREPARED BY

NEW JERSEY DEPARTMENT OF TRANSPORTATION

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I. INTRODUCTION

On July 17, 1979, the New Jersey State Legislature passed legislation creating the New Jersey Transit Corporation (NJ TRANSIT), which was empowered to acquire and operate publicly supported bus and rail services throughout the State. On December 11, 1979, NJ TRANSIT replaced the former Commuter Operating Agency of the New Jersey Department of Transportation (NJDOT) as owner of approximately 1,600 buses operated throughout the State by approximately 120 private bus companies, 22 of which receive operating subsidies and provide service for approximately 80% of New Jersey's bus riders. A major goal of NJ TRANSIT is the development of a rational coordinated efficient and effective Statewide transit system.

Reflecting this Statewide scope, in responding to the provisions of the United States Department of Transportation (USDOT) regulations outlining how recipients of USDOT funds will comply with Section 504 of the Rehabilitation Act of 1973 prohibiting discrimination on the basis of handicap in programs receiving Federal funds, New Jersey's Transition Plan is also Statewide in scope. However, since the Regulations call for the submission of Transition Plans to UMTA through appropriate Metropolitan Planning Organizations (MPO's), New Jersey's Transition Plan will be submitted through the State's six MPOs which are as follows:

1. Tri-State Regional Planning Commission which includes the Counties of Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, and Union.
2. Delaware Valley Regional Planning Commission which includes the Counties of Burlington, Camden, Gloucester, and Mercer.
3. Atlantic City Urban Area Transportation Study which for the purposes of this Plan includes all of the Counties of Atlantic and Cape May.
4. Cumberland County Urban Area Transportation Study.
5. Phillipsburg Urban Area Transportation Study which for the purposes

of this Plan includes all of the Counties of Hunterdon, Sussex and Warren.

6. Wilmington Area Planning Coordinating Council (WILMAPCO) which for the purposes of this Plan includes all of Salem County.

Transition Plans for areas having no rapid rail systems must be submitted to UMTA by July 2, 1980, and those having rapid rail by January 2, 1981. In developing its Statewide Transition Plan, New Jersey has taken the following approach. The portions of the Plan submitted through the Atlantic City, Cumberland County, Phillipsburg, and WILMAPCO MPO's will only include local bus and paratransit services. Since the long-haul bus and commuter rail services operated in these areas provide the majority of their service in either the Delaware Valley Region or the Tri-State Region, the accessibility of these services will be addressed in the portions of the Plan submitted through the latter two MPO's. Also, with regard to policies and practices, NJ TRANSIT is developing guidelines for uniform policies and practices that must be followed by all assisted carriers to comply with the 504 Regulations. This portion of the Transition Plan will also be submitted to UMTA with the Tri-State and Delaware Valley Region portions of the Plan by January 2, 1981.

II. CURRENT TRANSPORTATION SERVICES

A. Fixed Route Transit Service

Description of Transit Service. Transit service in the Atlantic City Urbanized area consists of local transit services centered on Atlantic City and Wildwood, long haul bus services connecting the area with New York and Philadelphia, and commuter rail service connecting the area with Philadelphia.

Local transit service in the Atlantic City area is provided by the Atlantic City Transportation Co. This carrier operates six routes serving primarily the communities of Atlantic City, Ventnor, Margate, Longport, Brigantine, Absecon, Pleasantville, Northfield, Linwood and Somers Point. The communities of Ocean City, Egg Harbor, Galloway and Hamilton also receive some service or are near transit routes. The company operates 39 transit buses, of which 32 are required for peak service. Principal routes extend from Atlantic City to Ventnor, Margate and Longport and from Atlantic City to Pleasantville. A terminal is maintained at Pleasantville, which is a major transfer point for four of the six routes. In addition, a single route in Atlantic City is operated by the members of the Atlantic City Jitneyman's Association.

Local transit service in the Wildwood area is provided by the Five Mile Beach Electric Railway Co. This company operates primarily on a single route, serving the communities of Wildwood, North Wildwood and Wildwood Crest. The company operates six transit buses, of which four are required for peak service.

Long haul bus service is provided between Atlantic City and New York by a route jointly operated by Transport of New Jersey and Lincoln Transit Company. Some trips are extended to Ocean City, Wildwood and Cape May. Transport of New Jersey operates three routes that connect Philadelphia with Atlantic City via Hammonton and Pleasantville; Ocean City via Atlantic City or via Mays Landing; and Cape May via Wildwood. Garden State Coachways provides service between New York and Hammonton on its Bridgeton route. Terminals at Atlantic City and Ocean City, as well as the Pleasantville terminal are utilized by these routes. A terminal at Wildwood formerly used by long haul buses, was closed in November 1979. Most of these routes provide incidental local service in the urbanized area but function primarily as long haul routes.

Commuter rail service is operated by ConRail on three routes. All of these operate from Lindenwold, where transfer connections are provided to Philadelphia. One route operates to Atlantic City via Hammonton and Absecon. A second route operates to Ocean City. The third route operates to Cape May with a bus connection being available to Wildwood.

Scope of Plan. The transition plan described in this document includes the vehicles, facilities and services operated for local transit service by the Atlantic City Transportation Company and the Five Mile Beach Electric Railway Company. The service operated by the members of the Atlantic City Jitneymen's Association is excluded, as these carriers do not participate in any Federally-funded programs. The long haul bus operations and the commuter rail operations are to a large extent extensions of services operated in the New Jersey portions of the Delaware Valley and Tri-State urbanized areas.

The TNJ routes to Philadelphia also serve portions of Camden and Gloucester Counties in the DVRPC area. In addition, the equipment for these routes is part of the TNJ Southern Division pool, which is based in Camden. The Garden State Coachways route primarily serves Burlington County in the DVRPC area. The TNJ/Lincoln Transit joint service is part of a much larger group of routes that serve a large part of Monmouth and Ocean Counties in the Tri-State area. These routes use a pool of equipment that is based in Union City, Elizabeth, New Brunswick and Lakewood, as well as Atlantic City. While the commuter rail service primarily serves the Atlantic City area, it is a part of the overall New Jersey rail system. In addition, due to the complementary nature of the long haul bus and commuter rail services, they cannot be considered apart from each other.

Thus, the TNJ routes to Philadelphia, the Garden State Coachways route to New York, the terminal facilities in Atlantic City and Ocean City, used exclusively by the long haul bus routes and the commuter rail routes and facilities, will be included in the transition plan for the DVRPC area. The TNJ/Lincoln Transit route to New York will be included in the Tri-State area transition plan.

1. Barriers to Accessibility

a. Vehicles

Atlantic City Transportation Company

Present Fleet: 39 transit buses; 8 buses primarily used for charter service

<u># Vehicles</u>	<u>Year</u>	<u>Description</u>
25	1976	Transit buses owned by NJ TRANSIT (1 51-seat, 7 43-seat, 17 35-seat)
5	1973	Transit buses owned by NJ TRANSIT (45 seats)
9	1953-1958	Transit buses owned by ACTC
8	1954-1964	Charter buses owned by ACTC

Barriers for people who can use steps:
(Buses 12 years old or less only)

<u>Improvement Required</u>	<u># Buses</u>
No handrail on front modesty panel behind left side of front door	30
No exterior doorway lighting at front door	30
No exterior doorway lighting at center door	13
No side destination sign	30
Crowd gate difficult to use as handrail	25
No handrails on front door	5

Barriers for people who cannot use steps:

No buses have lifts and wheelchair tiedown positions

Five Mile Beach Electric Railway Co.

Present Fleet : 6 transit buses

<u># Vehicles</u>	<u>Year</u>	<u>Description</u>
3	1976	Transit buses owned by NJ TRANSIT (35 seats)
3	1969	Transit buses owned by FMB (45 seats)

Barriers for people who can use steps:

<u>Improvement Required</u>	<u># Buses</u>
No handrail on front modesty panel behind left side of front door	6
No exterior doorway lighting at front door	6
No exterior doorway lighting at center door	3
No side destination sign	3
Crowd gate difficult to use as handrail	3
No handrails on front door	3

Barriers for people who cannot use steps:

No buses have lifts and wheelchair tiedown positions.

b. Terminals

Pleasantville

Barriers for people who can use steps:

None

Barriers for people who cannot use steps:

No curb cuts on sidewalks in front of terminal and on other side of street at eastbound bus stop
5" step between sidewalk and terminal entrance
Telephone (outdoor booth) not usable by people in wheelchairs

2. Actions Required to Remove Barriers

a. Vehicles - Bus Replacement Schedule

Atlantic City Transportation Co.

<u>Action Year</u> ^{1/}	<u>Action</u>
1981	Receive 18 new fully accessible buses
1981	Transfer 11 1976 buses to other operations (one 51-seat; ten 35-seat)
1985	Receive 5 new fully accessible buses
1988	Receive 14 new fully accessible buses

^{1/} Throughout this plan, years are measured from July 2, 1979, the effective date of the Regulation; thus years are run from July 2 through July 1.

Five Mile Beach Electric Railway Co.

<u>Action Year</u>	<u>Action</u>
1983	Receive two 1976 buses (35 seat) from other operations
1988	Receive five new fully accessible buses

Barrier removal for handicapped people who can use steps:

Atlantic City Transportation Co.

Modify five 1973 buses and fourteen 1976 buses to be accessible for people who can use steps by removing the barriers listed above.

Five Mile Beach Electric Railway Co.

Modify three 1969 buses and three 1976 buses to be accessible for people who can use steps by removing the barriers listed above.

b. Terminals

Barrier removal required for terminals:

Pleasantville - Install 2 curb cuts
 Install ramp on sidewalk to entrance
 Install free standing outdoor telephone.

3. Cost of Improvements

a. Buses

Capital Cost - Atlantic City Transportation Co.

New vehicles would be obtained over a 30 year period based on the following schedule:

<u>Year</u>	<u># Vehicles</u>
1981	18
1985	5
1988	14
1993	18
1997	5
2001	14
2005	18

Total for 30 year time period - 92.

At an incremental cost of \$17,000 ^{1/} per vehicle the total cost over 30 years is \$1,564,000.

In addition, fourteen 1976 buses and five 1973 buses would have to be modified. The detailed cost of the modifications will be included in the statewide transition plan. It is estimated that these costs will be less than \$1000 ^{2/} per bus and that the total cost of the modifications will be approximately \$15,000.

Capital Cost - Five Mile Beach Electric Railway Co.

New vehicles would be obtained over a 30 year period based on the following schedule:

<u>Year</u>	<u># Vehicles</u>
1989	5
2001	5

Total for 30 year time period - 10.

At an incremental cost of \$17,000, per vehicle the total cost would be \$170,000.

An additional cost of \$5,000 would be incurred to modify six existing vehicles, for a total capital cost of \$175,000.

^{1/} In analyses conducted by CRW in 1979 for the USDOT, \$17,000 was used for the incremental cost of an accessible bus and \$.0264 per mile was used for the incremental maintenance cost. All costs are expressed in 1980 dollars.

^{2/} Ibid.

Operating and Maintenance Costs - Atlantic City Transportation Co.

The incremental cost for the lift-equipped buses is estimated to be approximately \$1000 per bus per year. There will be 18 lift-equipped buses in service for 28 years, beginning in 1981, an additional five lift-equipped buses in service for 24 years, beginning in 1985 and an additional 14 lift-equipped buses in service for 20 years beginning in 1988. Thus, the total incremental operating cost for this fleet is \$902,000. It is expected that the additional operating costs of the modified existing buses will be negligible and that no additional service will need to be operated as a result of the use of accessible buses.

Operating and Maintenance Costs - Five Mile Beach Electric Ry. Co.

Five lift-equipped buses will be operated for 20 years beginning in 1988. These buses will require the expenditure of 100,000 dollars in incremental operating cost at a rate of \$1000 per bus per year. It is expected that the additional operating cost of the modified existing buses will be negligible, and that no additional service will need to be operated due to the use of accessible buses.

b. Terminals

Capital Costs - Pleasantville

3 curb cuts	\$450
1 ramp	\$500
Total	\$950

Operating and Maintenance Costs - Pleasantville

It is anticipated that the improvements to Pleasantville terminal will produce no additional operating or maintenance costs.

Paratransit Services

Current Special Service Transportation - The Atlantic City Urbanized Area has nearly thirty special transportation service providers, some of which operate vehicles with lifts. Most of the services operate weekdays during daytime hours, and many of them are aimed at serving residents over the age of 60. Figure II-1 lists the municipalities in Atlantic and Cape May Counties, which are served by fixed route bus service.

Potential providers of interim accessible service are those already operating special service^{1/} or taxis in these towns or those operating county-wide services. Taken together, the special services operated in Atlantic and Cape May Counties utilize 6 buses, 10 minibuses and 66 vans; of these, one minibus and 8 vans are equipped with lifts. Selected special service operators in Atlantic and Cape May Counties are described in Figure II-2.

Taxi and Limousine Operations - There are approximately 30 taxi operators in the municipalities served by transit in Atlantic County and a dozen taxi operators in Cape May County.^{2/} In addition, Atlantic City has 20 limousine operators, however, they service airports primarily and cannot be expected to provide local service.

State and Federal DOT Funding - In July 1977 NJDOT encouraged counties to use funds available under the Federal Aid to Urban Systems (FAUS) to purchase lift-equipped vehicles in order to fulfill special efforts planning objectives. This resulted in an expenditure of nearly \$1 million per year (FHWA highway funds paying 70% and New Jersey paying

^{1/} "Inventory of Special Transportation Services for the Elderly and Handicapped in New Jersey," NJDOT, 1980.

^{2/} Inventory of taxi and limousine operators made by NJDOT for the New Jersey Paratransit Study, May 1978.

Figure II-1.

Atlantic City Urbanized Area Municipalities

Served by Fixed Route Bus Service

ATLANTIC COUNTY

Absecon
Atlantic City
Brigantine
Linwood
Longport
Margate City
Northfield
Pleasantville
Somers Point
Ventnor City

CAPE MAY COUNTY

North Wildwood
Wildwood
Wildwood Crest

Figure II-2.

Selected Paratransit Operators in the Atlantic City Urbanized Area

	<u>Organization</u>	<u>Service Description</u>	<u>Vehicles</u>
ATLANTIC COUNTY	Pleasantville	Free service for elderly residents	18 passenger school bus with lift and 3 wheelchair positions
	Somers Point	Free door to door service to elderly residents 8:00-4:00 Monday-Friday	16 passenger minibus
	Atlantic City Nutrition Project	Free county-wide door to door service for elderly; 9:30-3:30 Monday-Sunday	8 vans 22 passenger bus
	Atlantic Human Resources	Free county-wide demand responsive service for elderly; 9:00-5:00 Monday-Friday Three centers for service are Atlantic City, Hammonton and Pleasantville. 900 passengers carried per month.	13 vans
	Lions Rehabilitation and Recreation Center	Free, fixed-route service for handicapped and blind adults within a 15 mile radius of Atlantic City and the agency workshop. 9:00-4:00 Monday-Friday 140 passengers carried per month.	1 minibus
	Paratransit for Atlantic County Elderly (PACE)	Free county-wide demand responsive service for elderly; 9:00-4:00 Monday-Friday 4,500 passengers carried per month.	16 passenger vans, 3 with lifts
CAPE MAY COUNTY	Cape May County Day Training Center	Free scheduled county-wide service for mentally retarded children to and from Center. 8:30-5:00 Monday-Friday.	2 10-passenger vans with lifts 2 16-passenger minibuses
	Cape May Center Fare-Free Transportation Center	Free county-wide fixed route service for elderly and handicapped; 9:00-4:00 Monday-Friday Free demand responsive service for those unable to use scheduled service. Destinations in Atlantic County are served daily, and there is one trip per week to Philadelphia. 9,500 passengers carried per month (7,000 elderly and 2,500 handicapped) 50% trips are shopping, 40% are medical	4 buses 12 vans, 2 with lifts

30% until 1979 and 75%/25% since 1979). Approximately 35 lift-equipped vehicles each year have been procured in this way, which are operated by county governments or municipalities. These vans transport handicapped people from home to sheltered workshops in each county using U.S. HEW funds to cover 75% of the operating costs. In addition to these vehicles, approximately 190 lift equipped buses and vans provide transportation services to the State of New Jersey's most profoundly mentally and physically handicapped persons. These vehicles are operated by the State of New Jersey's Bureau of Day Training Services and operate in every county in the State. These vehicles transport handicapped persons round-trip from their homes to day training service sites where they receive training to facilitate their entry back into the mainstream of society. Funds for providing these transportation services are 75% US Department of HEW and 25% state.

In New Jersey, 234 vehicles have been purchased using USDOT funds provided to states under Section 16(b)(2) of the Urban Mass Transportation Act of 1964 as amended. Of these, 20-25% are lift equipped. The organizations operating these vehicles in the Atlantic City urbanized area are identified in Table II-3.

It is unclear whether the handicapped transportation services described above are available to the general handicapped public. The Day Training Center vehicles may be used only for the sheltered workshop participants, and some of the 16(b)2 vehicles may also be used only for special client groups. It would appear as if operating policies for these recipients of USDOT funds will have to be modified so that the general handicapped public can be served if these services were to be used to provide any part of interim services required under the 504 Regulation.

Another important future source of funding earmarked for handicapped transportation services is the bond issue approved in a November, 1979 referendum which provides \$1 million per year for the next four years to

Figure II-3.

Identification of the Organizations Receiving/Applying
For Special Service Vehicles Purchased Under Section 16(b)2

<u>County</u>	<u>Program Year</u>	<u>Recipient Organization</u>	<u>Vehicle</u>
Atlantic	1976	Lions Blind Rehabilitation Center	1 16 passenger bus
		Atlantic Human Resources of Atlantic City	2 vans
		Welfare Rights Unity Movement	2 vans
	1977	Ventnor Chapter of Disabled American Veterans	1 van
		Atlantic Human Resources	1 28 passenger bus
		Atlantic Mental Health Center	1 van
	1978	Borough of Buena	1 18 passenger bus with lift
Cape May	1977	Stone Harbor Lions House for the Blind	1 bus
	1978	Jersey Cape Diagnostic Training and Opportunity Center	1 van
		Mental Health Services of Cape May County	1 van

be spent for such services.

Coordination - As shown in the previous table, special transportation services using lift-equipped vehicles are already operating in the urbanized area. In considering interim accessible service providers, opportunities to coordinate the use of lift-equipped vehicles so as to maximize their availability and utilization should be examined. Recent paratransit experience indicates that coordination of special services does not automatically lead to cost savings or increased productivity. Nevertheless, coordination efforts could be directed at common information exchange, referrals of trip requests and dispatching. In those cases where existing accessible service can be made available to wheelchair users without restrictions of trip purpose or client affiliation, and response times can be minimized, it should be possible to enhance services to handicapped people.

III. INTERIM SERVICE PLAN ALTERNATIVES

As discussed above it is planned to achieve program accessibility on the fixed route bus services operated in Atlantic City by July 2, 1982 and in Wildwood by July 2, 1989. New buses are not planned to be obtained for Wildwood until July 2, 1989, as this area utilizes 35 - passenger small buses. A sufficient number of buses of this size were obtained by the State in 1976 to serve all of the carriers who have need for these vehicles. Thus, new small buses will not be required until the 1976 buses are due for replacement. Thus there would be need for interim accessible services only in Wildwood. In this portion of the transition plan the interim service alternatives considered in both cities are described. The option of achieving program accessibility through retrofitting of sufficient numbers of the existing fleet is also discussed.

A. Service Characteristics

The interim accessible service instituted July 2, 1982, would operate in an area slightly larger than what is currently served by fixed route buses, during the same hours of operation and charging identical fares. The areas served in Atlantic and Cape May Counties and an estimate of the number of handicapped and wheelchair users in each city are shown in Figure III-1. All wheelchair users in the cities listed in this table would be eligible for trips on lift-equipped vans operating door-to-door anywhere in these cities. This would actually be a broader service area than the current fixed route bus since not all portions of the cities have fixed-route bus routes within a half-mile.

Figure III-1.

Estimates of Number of Handicapped People and
Wheelchair Users in Areas Served by Mass Transit

	<u>Population^{1/} 5 or over</u>	<u>Percent Population 5 or over Handicapped</u>	<u>Handicapped</u>	<u>Wheelchair</u>
ATLANTIC COUNTY				
Absecon	5,574	5.18	289	15
Atlantic City	44,791	8.21	3,680	202
Brigantine	6,182	6.55	405	22
Linwood	5,669	3.83	217	11
Margate	10,003	5	501	27
Northfield	8,125	4.64	377	20
Pleasantville	12,588	7.34	924	50
Somers Point	7,328	6.72	493	27
Ventnor	9,817	5.71	561	30
Longport	<u>1,125</u>	<u>7.31</u>	<u>90</u>	<u>5</u>
Total	111,302 <u>2/</u>	6.71	7,466	409
CAPE MAY COUNTY				
Wildwood	3,821	7.84	300	16
North Wildwood	3,700	7.03	260	14
Wildwood Crest	<u>3,269</u>	<u>5.52</u>	<u>181</u>	<u>9</u>
Total	10,790 <u>3/</u>	6.87	741	39

1/ 1970 Census data.

2/ 68.8% of the County population 5 years or older.

3/ 19.4% of the County population 5 years or older.

Interim accessible service only needs to provide trips to wheelchair users who would use accessible fixed route bus services in the area. This would be a very difficult eligibility criterion to use in practice, however, a system could be set up to provide trips from an individual's home to the bus stop nearest the final destination and from the final destination to the stop nearest home on the return. Restriction of origin-destination points of this sort would have little or no impact on average trip length or costs, but would tend to restrict trips to those wheelchair people who would have used an accessible fixed route service. All other handicapped persons who can use steps will use the fixed route service since it must be made accessible to these individuals by July 2, 1982.

B. Demand

The number of trips that would be taken by wheelchair users living in the service area is estimated using techniques developed by Chase, Rosen and Wallace (CRW) the National Survey^{1/} project and applied in the Newark-Elizabeth^{2/} Study conducted by New Jersey Department of Transportation (NJDOT). Two levels of trip rates have been used for the analysis of costs and ridership of the interim service. The first is called Barrier and is based on responses by handicapped people in the National Survey regarding the number of trips they would take if an accessible fixed route system were available to them. The number of trips was reduced to take into account handicapped people who said they would use the accessible service, but at a different point in the interview stated they had barriers which would have prevented them from using it.

^{1/} A Manual for Estimating the Incidence and Trip Rates for Transportation-Handicapped People, prepared for USDOT/UMTA by Grey Advertising Inc. Chase, Rosen & Wallace, Inc., Smith & Howard Associates, Inc., September, 1979.

^{2/} Newark-Elizabeth Local Bus Study, Estimates of Accessible Bus Usage and System Requirements, prepared for NJDOT by Chase, Rosen & Wallace, Inc., 1980.

It is well recognized that survey responses on what somebody will do results in overstatements of use. Accordingly, a second analysis was done called Factored. Factored trip rates are also based on the survey, but handicapped people whose barriers are removed by an accessible fixed route service are assigned the average trip rate of handicapped people who stated they use non-accessible fixed route services with difficulty. Since Factored is based on an individual's perception of actual rather than projected rates, it is considered to be more representative. The subsequent analysis uses both the Factored and Barrier rates to show the impact of a range of demand values.

The number of trips by wheelchair users per year is as follows:

	<u>Atlantic City</u>	<u>Wildwood</u>
Factored	5,643	538
Barrier	9,706	924

C. Operating Characteristics

The door to door service would use ten-passenger vans, equipped with lifts and two wheelchair tie-down positions. Service requests would be handled on a first call basis and response would be within one to two hours. Three types of organization were considered:

1. Publicly Operated

A driver would be available at all operating hours and the van would be used for no other purpose.

2. Contract Operation by a local taxi or special services group.

The vans are supplied to the operator and may be used only to provide trips to wheelchair users of interim service. The driver will use regular vehicles to provide trips to other users.

3. Contract Operation, the operator supplies the van.

The van and driver would be used for other trips when not needed for wheelchair persons, thus there is no need for driver to swap vehicles as in type (2).

Cost values for each type are indicated in Figure III-2. These data are based on the most recent price paid for a van by the State, a recent telephone conversation with Atlantic Research of Alexandria, Virginia, a supplier of modified vans, the National Analyses of the Impact of Section 504^{1/} performed by CRW, and cost data obtained from local van suppliers.

D. Capital, Operating and Total Costs

The ridership demand and cost data discussed above were used in a computer model to derive estimates of costs for each type of operating organization. Results displayed in Figure III-3 demonstrate that the private operator using vehicles supplied to him is the least cost organization type at both the Factored and Barrier ridership levels. Over the time period 1982-1988, in 1980 dollars, \$240,000 would be needed to provide 43,267 one-way trips at a cost per trip of \$5.55. The 504 Regulations call for spending an amount equal to 2% of Section 5 funds unless the Handicapped Advisory Group agrees to a lesser amount. Two percent of Section 5^{2/} is estimated to amount to \$189,000 for the entire Urbanized area over this same period (approximately 79% of the need).

Costs each year to operate the private system with vans supplied are displayed in Figure III-4, as follows: total cost (TOTCST), capital cost (CAPCST), operating and maintenance costs (O&MCOST) and the yearly number of trips handled (RIDERS). The summary shows the total expenditure at the end of 1988 on the interim service and breakouts by capital and operating and maintenance. Note that a salvage credit is taken for unused vehicles life at the end of the analysis period.

^{1/} Working Paper No. 1 - Cost/Effectiveness Analysis of Section 504 Notice of Proposed Rulemaking, prepared for USDOT/UMTA by Chase, Rosen & Wallace, Inc., September, 1978.

^{2/} Estimated by projecting the average of 1979-1981.

Figure III-2,
Cost Parameters for Interim Accessible Service **

	<u>Public</u>	<u>Contract Vans Supplied</u>	<u>Contract Own Vans</u>
Cost of Van	\$ 15,000	\$ 15,000	0
Life of Van (miles)	100,000	100,000	100,000
Cost per Vehicle (hour)	<u>1/</u>	\$7.00	\$7.00
Cost per Vehicle (mile)	\$.50	\$.50	\$.50
Cost per Vehicle (year)	<u>2/</u>	\$1,000	\$6,000
Cost per Trip	\$.05	\$.05	\$.05
Dispatching Equipment <u>3/</u>	\$1,000	\$1,000	\$1,000

1/ This cost is included in the vehicle year cost for the public system, since the driver is dedicated to the service. In the other two, the system is charged \$7.00 per hour when trips are provided to wheelchair people.

2/ One-thousand dollars plus the number of hours of service multiplied by \$10 per hour divided by the number of vans in the system, e.g., for Atlantic City the system operates 6,570 hours and the cost is: $\$1000 + (6570 \times \$10) / 2 = \$1000 + 32,850 = \$33,850$.

3/ \$500 in 1982 and \$500 in 1987.

** Costs are based on previous work conducted by CRW for USDOT.

Figure III-3.

Summary Costs and Ridership (Trips) for Interim Service

	FACTORED			BARRIER		
	<u>Atlantic City</u>	<u>Wildwood</u>	<u>Both</u>	<u>Atlantic City</u>	<u>Wildwood</u>	<u>Both</u>
TRIPS						
Per Year	5,643	538	6,181	9,706	924	10,630
1982-1988	39,501	3,766	43,267	67,942	6,468	74,410
TOTAL COST (000)						
Public	\$585	\$332	\$917	\$644	\$340	\$1,004
Private with Public Vehicles	207	33.3	240	346	46.5	393
Private, own Vehicles	253	101	354	373	112	485
COST PER TRIP						
Public	\$14.80	\$88.17	\$21.19	\$9.76	\$52.50	\$13.49
Private with Public Vehicles	5.25	8.85	5.55	5.09	7.19	5.28
Private, own Vehicles	6.39	26.81	8.18	5.49	17.38	6.52

Figure III-4.

Interim Service, Door to Door Costs in Atlantic City
(Private Operator, Vans Supplied by NJT)

ATLANTIC COUNTY INTERIM SERVICE-1
5/7/80

YEAR	TOTCST	CAPCST	O&M COST	RIDERS
1982	56438	30500	25938	5643
1983	25938	0	25938	5643
1984	25938	0	25938	5643
1985	25938	0	25938	5643
1986	25938	0	25938	5643
1987	26438	500	25938	5643
1988	25938	0	25938	5643

S U M M A R Y

YEAR : 1988
 CAPITAL COST : 25885
 OPERATING AND MAINTENANCE : 181572
 TOTAL COST : 207457
 COST PER RIDER : 5.25
 SALVAGE VALUE : 5114
 COMMAND AND CONTROL COSTS
 1982 : 500
 1987 : 500

Note: A van is required for approximately 40% of the time during weekday hours. Two vans are used to provide a back-up capability. Hence, mileage is very low.

E. Retrofit

Retrofit of sufficient numbers of fixed route buses in Atlantic City and Wildwood was also considered as a means of achieving program accessibility. It was assumed that slightly higher spare rate would be needed if retrofit rather than new lift equipped buses were used and that 19 and 3 retrofit buses would be required for the services in Atlantic City and Wildwood, respectively. At a cost per bus of \$20,000^{1/} for retrofit and \$1,000^{2/} per year per bus additional to operate and maintain, the total cost of retrofitting and operating these buses for 1982-1988 is \$594,000 (\$513,000 for Atlantic City and \$81,000 for Wildwood). Thus in Atlantic City both private type organizations are lower cost means of providing service from 1982 until 1989 than retrofit of the fixed route buses. In Wildwood only the private operator using vans supplied to it displays lower cost than retrofitting fixed route buses. This is the case at both Factored and Barrier levels of ridership.

F. Recommended Option

Service would be most responsive if the public organization were selected to provide door to door service, since a driver would always be on duty. Calls would be handled as received, the driver would be routed by radio and only return to home base when no trips are outstanding. In the second type of organization, a driver would return to home base, pick up the lift equipped van, take the caller(s) to the desired location and return to home base to pick up their regular vehicle for other trips. Thus, delays would be introduced in returning to home base. The third organization avoids the return delay because the drivers would use the vans for all trips and the operator is compensated for the higher capital and operating and maintenance (O&M) costs.

^{1/} Based on previously cited work, capital costs to retrofit are higher than the incremental cost of purchasing a new accessible bus.

^{2/} Ibid.

In Atlantic City and Wildwood the type 2 door to door organization, a private operator using vans supplied to it is the recommended solution. It is the lowest cost method of providing service and would provide responsive service. There are two factors which should be considered regarding this recommendation. First, the total cost of this type service shown in Figure III-3 may be low because the computer model takes full credit for unused van mileage in computing the salvage value of the fleet. For example, the total cost of the type 2 system is \$33,300 for service in Wildwood at the Factored level of ridership. If no salvage credit is taken for the vans, total cost is approximately \$61,000. It is not suggested that the vans have zero value at the end of the seven year operating period, but that the true total cost will range between \$33,300 and \$60,000. Discounted cost, at 10% per year, was computed for the type 2 door to door and the retrofit bus options for providing service in Wildwood. The type 2 discounted system cost is \$38,100 and the retrofit bus discounted cost is \$76,100. If no salvage credit is taken, the type 2 door to door discounted cost is \$53,600. Thus, the door to door type 2 system displays lowest cost both in 1980 and discounted dollars, with and without credit for salvage of vans at the end of operation.

G. Coordination

The interim door to door service would be coordinated with existing paratransit services to the maximum extent possible. The paratransit services have significant numbers of lift equipped vehicles, but as described above they do not in general provide unscheduled, fast-response service and do not handle all trip purposes or user groups with equal priority.

IV. ACTION PLAN

Plan Description

o Atlantic City Transportation Co.

Program accessibility for this operator is reached in 1981 when 18 buses from the order currently being developed for the State are delivered. No interim service is required. Additional accessible buses are obtained in 1985 and 1988. 18 buses will enable 50% of the peak service to be provided with accessible buses, allowing for 16 buses in service and two spares. Off peak accessible service can be fully provided on all routes except the #5-Atlantic City-Longport. On this route three-quarters of the buses would be accessible in the off-peak.

o Five Mile Beach Electric Railway Co.

Program accessibility for this operator is reached when 5 buses are delivered in 1988 to replace buses purchased in 1976. At this time all buses will be accessible. Interim service is provided between 1982 and 1989. Interim service will be provided by a contract operator. The service will operate 12 hours per day, 7 days per week except during the summer months when evening service will be provided. These hours of operation match the hours of the fixed route service. Service will be provided only to handicapped people who are unable to use steps. It will be a short (one-two hour) response time service. However, response times will vary depending upon the level of demand, as in a taxi operation. The service will approximate the characteristics of a fixed route service by providing pick-up at the point of origin, thus eliminating the need to wait outdoors for a service that will necessarily have a somewhat variable arrival time. Drop-offs will be made only along the bus route.

PLAN ELEMENTS

Atlantic City Transportation Co.

Year - 1981

Plan Element - obtain 18 wheelchair accessible buses.
 Sources of funds - UMTA capital grant already submitted.
 Cost - \$306,000 (incremental cost of accessibility features)
 Responsibility - NJ Transit

Year - 1981

Plan Element - Implement policies and practices for use of
 wheelchair accessible buses and for service
 to handicapped people who can use steps.
 Cost - Negligible
 Responsibility - NJ Transit (develop procedures manual)
 Atlantic City Transportation Co. and municipalities
 served (implement procedures)

Year - 1981 and continuing

Plan Element - operate and maintain wheelchair accessible buses
 Source of funds - NJ Transit operating subsidies and Section 5 funds.
 Cost (incremental) - \$18,000 per year in 1981 through 1984,
 \$23,000 per year in 1985 through 1988,
 \$37,000 per year in 1989 and thereafter.
 Responsibility - Atlantic City Transportation Co.

Year - 1982

Plan Element - modify 19 existing buses
 Sources of Funds - New capital grant (statewide program)
 Cost - \$15,000
 Responsibility - NJ Transit (supply materials)
 Atlantic City Transportation Co. (install
 modifications)

Year - 1982

Plan Element - modify Pleasantville terminal
 Source of funds - new capital grant (statewide program)
 Cost - \$950
 Responsibility - NJ Transit

Year - 1985

Plan Element - obtain 5 wheelchair accessible buses
 Source of funds - new capital grant (1985 bus purchase and
 NJ Transit
 Cost - \$85,000 (incremental cost of accessibility features)
 Responsibility - NJ Transit

Year - 1988

Plan Element - obtain 14 wheelchair accessible buses
 Source of funds - new capital grant (1989 bus purchase)
 and NJ Transit
 Cost - \$238,000 (incremental cost of accessibility features)
 Responsibility - NJ Transit

Five Mile Beach Electric Railway Co.

Year - 1982

Plan Element - modify 6 existing buses
 Source of Funds - new capital grant (statewide program)
 Cost - \$5,000
 Responsibility - NJ Transit (supply materials)
 Five Mile Beach El. Ry. Co. (install modifications)

Year - 1982

Plan Element - Implement policies and practices for service to
 handicapped people who can use steps
 Cost - negligible
 Responsibility - NJ Transit (develop procedures manual)
 Five Mile Beach E. Ry. Co. and municipalities
 served (implement procedures)

Year 1982 - 1988

Plan Element - operate interim service
 Source of Funds - Section 5
 NJ Transit state funds

Cost - Year	Capital	Operating	Amount
1982	\$30,500	\$ 4,282	\$34,782
1983	0	4,282	4,282
1984	0	4,282	4,282
1985	0	4,282	4,282
1986	0	4,282	4,282
1987	500	4,282	4,782
1988	0	4,282	4,282
Total	\$31,000	\$29,974	\$60,974

Responsibility - NJ Transit (obtain contract operator)
 Contract operator (implement service)



Year - 1988

Plan Element - obtain 5 wheelchair accessible buses

Source of Funds - new capital grant (1989 bus purchase) and
NJ Transit

Cost - \$85,000 (incremental cost of accessibility features)

Responsibility - NJ Transit

Year - 1989

Plan Element - implement policies and practices for use of
wheelchair accessible buses

Cost - negligible

Responsibility - NJ Transit (develop procedures manual)

Five Mile Beach E. Ry. Co. (implement procedures)

Year - 1989 and continuing

Plan Element - operate and maintain wheelchair accessible buses

Sources of Funds - NJ Transit operating subsidies and
Section 5 funds

Cost (incremental) - \$5,000 per year

Responsibility - Five Mile Beach Electric Railway Co.

